

Garfinkel MS, Singhal A, et al Yoga-Based Intervention for Carpal Tunnel Syndrome. JAMA 1998;280:1601-3.

Design: Randomized clinical trial

Population/sample size/setting:

- 42 patients (28 women, 13 men, mean age 49, missing data on 1) who completed a clinical trial of yoga for CTS at one geriatric center and at industrial site in Pennsylvania
- Eligibility criteria were at least 2 of 5 CTS findings: Tinel, Phalen, pain in median nerve distribution, sleep disturbance arising from hand symptoms, or numbness/paresthesias in median nerve distribution
- Exclusion criteria were previous surgery for CTS, inflammatory arthritis, or CTS related to systemic conditions such as hypothyroidism or pregnancy

Main outcome measures:

- Randomized to yoga (n=22) or control (n=20)
- Yoga participants were compensated to arrive 1 hour before work shift began, with sessions led by a single instructor twice weekly for 8 weeks
- Yoga consisted of upper-body oriented hatha yoga postures emphasizing structural alignment of body & awareness of optimal joint position during use
- Control consisted of standard wrist splint with a metal insert to supplement current treatment
- Treatment effect of yoga was modest; yoga group had significant improvement in grip strength and pain reduction during the trial, but control group grip strength and pain scores did not significantly improve; however, there were no statistically significant differences between the yoga and control groups using repeated measures analysis of variance
- Sleep disturbance, Phalen, Tinel, and median nerve sensory and motor conduction were also compared between groups; only the Phalen sign improved more often in the yoga than the control group

Authors' conclusions:

- Yoga classes improved pain and grip strength for patients with CTS
- Study limitations include small sample size, lack of data on medication use, lack of data on lost work time, and lack of generalizability

Comments:

- Randomization appears adequately done, but the flow chart in the figure does not give reasons for withdrawal, which happened in 9 of the 51 randomized subjects
- Some analyses are performed on wrists (e.g., grip strength) and some (e.g., pain) on patients; it is not clear that the analysis of data adjusted for correlations between wrists when CTS was bilateral and both wrists were evaluated

- Although Phalen, Tinel, and nerve conduction may be of interest, the outcomes of grip strength and pain reduction are more pertinent, and these did show improvement over the course of the trial in the yoga group; the lack of between-group difference on ANOVA may be due to small sample size

Assessment: Adequate to support an evidence statement that yoga instruction may reduce pain and improve grip strength